

AMENDMENTS TO THE DRAWINGS

The attached "Replacement Sheets" of drawings which include FIGS. 1, 3, and 4, replace the original sheets including FIGS. 1, 3, and 4.

Attachment: Replacement Sheets

REMARKS

Claims 1-5 are now pending in the application. Minor amendments have been made to the specification and claims to simply overcome the objections to the specification and rejections of the claims under 35 U.S.C. § 112. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

DRAWINGS

The drawings stand objected to for certain informalities. Applicant has attached revised drawings for the Examiner's approval. In the "Replacement Sheets," Applicant amends FIGS. 1, 3, and 4 to include reference numerals indicating exciting electrodes 14 and a sensitive membrane 16. Applicant notes that the specification recites "exciting electrodes formed on both surfaces of the piezoelectric material, and has a sensitive membrane." Therefore, no new matter is added. Applicant amends the specification to include reference numerals 14 and 16.

CLAIM OBJECTIONS

Claim stands objected to for certain informalities. Applicant amends claim 1 according to the Examiner's suggestion to overcome the objection.

REJECTION UNDER 35 U.S.C. § 112

Claims 2-5 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicant regards as the invention. This rejection is respectfully traversed.

Applicant amends claim 2 to recite “a piezoelectric vibrating reed.” As such, claim 2, as well as the dependent claims that recite further limitations to the piezoelectric vibrating reed, are now definite.

Applicant amends claim 3 to recite that the vibrating reed “has a sensitive membrane on an exciting electrode on one surface thereof that is in contact with a liquid.” Similarly, Applicant amends claim 4 to recite “that is in contact with air.” Applicant respectfully submits that claims 3 and 4 are now definite.

REJECTION UNDER 35 U.S.C. § 102

Claims 1-5 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Duncan (U.S. Pat. No. 6,041,642). This rejection is respectfully traversed.

For anticipation to be present under 35 U.S.C. §102(b), there must be no difference between the claimed invention and the reference disclosure as viewed by one skilled in the field of the invention. Scripps Clinic & Res. Found. v. Genentech, Inc., 18 USPQ.2d 1001 (Fed. Cir. 1991). All of the limitations of the claim must be inherent or expressly disclosed and must be arranged as in the claim. Constant v. Advanced Micro-Devices, Inc., 7 USPQ.2d 1057 (Fed. Cir. 1988).

Applicant amends claim 2 to recite “a piezoelectric vibrating reed” and “an oscillator circuit that oscillates the vibrating reed and outputs a signal indicative of the

oscillating frequency of the vibrating reed.” The phase detector obtains the “difference in phase between an output signal from the voltage controlled oscillator and the output signal from the oscillator circuit.”

Duncan does not show, teach, or suggest an oscillator circuit that oscillates the vibrating reed. In contrast, Duncan discloses that the VCO 14 oscillates the cantilever 10 and outputs a signal to the phase detector 11. In other words, Duncan fails to disclose a separate oscillator circuit that oscillates the vibrating read and outputs a signal indicative of the oscillating frequency of the vibrating reed. Applicant respectfully submits that claim 2, as well as its corresponding dependent claims, should be allowable for at least these reasons. Applicant amends claim 1 to recite similar limitations. Therefore, claim 1 should be allowable for at least similar reasons.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Duncan (U.S. Pat. No. 6,041,642). Claims 1-5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Roukes et al. (U.S. Pat. No. 6,722,200) in view of Duncan (U.S. Pat. No. 6,041,642). These rejections are respectfully traversed.

Claim 2 recites “a piezoelectric vibrating reed” and “an oscillator circuit that oscillates the vibrating reed and outputs a signal indicative of the oscillating frequency of the vibrating reed.” The phase detector obtains the “difference in phase between an output signal from the voltage controlled oscillator and the output signal from the oscillator circuit.”

Duncan and Roukes, singly or in combination, fail to show, teach, or suggest such a structure. As described above, Duncan discloses that the VCO 14 oscillates the cantilever 10 and outputs a signal to the phase detector 11. Duncan fails to disclose a separate oscillator circuit that oscillates the vibrating read and outputs a signal indicative of the oscillating frequency of the vibrating reed.

Similarly, Roukes fails to disclose an oscillator circuit that oscillates the vibrating reed and outputs a signal indicative of the oscillating frequency of the vibrating reed. Applicant notes that claim 2 requires that the phase detector obtains the phase difference between an output signal from the voltage-controlled oscillator and the output signal from the oscillator circuit. Roukes, like Duncan, does not disclose a voltage controlled oscillator and an oscillator circuit that oscillates the vibrating element 10. Therefore, Applicant respectfully submits that claim 2, as well as its corresponding dependent claims, should be allowable for at least these reasons. Claim 1 includes similar limitations. Therefore, claim 1 should be allowable for at least similar reasons.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the

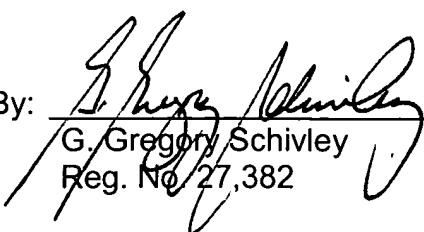
Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: Dec 12, 2005

By:

G. Gregory Schivley
Reg. No. 27,382


Bryant E. Wade
Reg. No. 40,344

GGS/BEW/DMA